

Matus et al.

S/N: 10/707,352

In the Claims

1. (Currently Amended) A plasma cutting torch comprising:
a torch body;
an output electrode disposed in the torch body; and
a plasma cutter starting circuit disposed in the torch body and configured to generate a pilot arc signal in the torch body and deliver the pilot arc signal directly to the output electrode to cause generation of a pilot arc.
2. (Previously Presented) The plasma cutting torch of claim 1 further comprising a cutting trigger, wherein the pilot arc signal generated by the plasma cutter starting circuit is a high-frequency, high-voltage power transferred to the output electrode of the plasma cutting torch upon activation of the cutting trigger.
3. (Previously Presented) The plasma cutting torch of claim 1 wherein output electrode of the plasma cutting torch is configured to receive high-frequency power to cause generation of the pilot arc across an airgap to a workpiece.
4. (Currently Amended) The plasma cutting torch of claim 1 wherein the torch body includes a handle and wherein the plasma cutter starting circuit is disposed within the handle and includes a coupling coil and high voltage transformer.
5. (Original) The plasma cutting torch of claim 1 wherein the plasma cutter starting circuit is configured to supply a high-frequency, high-voltage power to the output electrode independent of a starting configuration of a plasma cutter power source to which the torch is connected.
6. (Original) The plasma cutting torch of claim 5 wherein a distance between the output electrode and the plasma cutter starter circuit is less than 12 inches.
7. (Original) The plasma cutting torch of claim 1 wherein the plasma cutter starting circuit is disposed within a manually controlled plasma cutting torch.

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8. (Original) The plasma cutting torch of claim 1 wherein the starting circuit is further configured such that noise radiation from the plasma cutter starting circuit is negligible.
9. (Original) The plasma cutting torch of claim 1 wherein the plasma cutting torch is operable with a power source configured for a contact start plasma cutter.
10. (Original) The plasma cutting torch of claim 1 wherein the plasma cutter starting circuit is disposed within a robotic plasma cutting torch.
11. (Original) The plasma cutting torch of claim 1 wherein the starting circuit is further configured to generate the pilot arc at the output electrode to ionize gas and initiate generation of a plasma.
12. (Currently Amended) A manufacturing kit comprising:
 - a plasma cutting torch having an anode and a cathode and configured to operatively engage a power source; and
 - a pilot arc starting circuit positioned in the plasma cutting torch and configured to supply the plasma cutting torch with a pilot arc voltage produced by the pilot arc starting circuit in the plasma cutting torch and necessary to generate a pilot arc between the anode and the cathode of the plasma cutting torch.
13. (Previously Presented) The manufacturing kit of claim 12 wherein the pilot arc voltage is generated independent of a starting configuration of the power source.
14. (Previously Presented) The manufacturing kit of claim 13 wherein the starting configuration of the power source is a contact start starting configuration.
15. (Previously Presented) The manufacturing kit of claim 12 wherein at least one of the anode and cathode further comprise an output electrode and wherein the pilot arc starting circuit is configured to supply a high-frequency, high-voltage, low-current power to the output electrode to initiate plasma cutting.

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16. (Currently Amended) A plasma cutting assembly comprising:
a plasma cutting torch;
a power source providing at least operational power to the plasma cutting torch;
and
a plasma cutting torch; and
a starter circuit disposed within the plasma cutting torch and configured to
receive the operational power from the power source and step up voltage of the operational power
to a high-frequency, high voltage power within the plasma cutting torch generate sufficient power
to cause a pilot arc in the plasma cutting torch.

17. (Original) The plasma cutting assembly of claim 16 wherein the power source is configured for a contact start plasma cutter.

18. (Original) The plasma cutting assembly of claim 16 wherein the starter circuit is configured to supply a high-frequency, high-voltage, low-current power to generate the pilot arc.

19. (Original) The plasma cutting assembly of claim 16 wherein the starter circuit is disposed within a handle of the plasma cutting torch.

20. (Original) The plasma cutting assembly of claim 16 having an open circuit output voltage of greater than 230 Volts Direct Current.